



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------------|------------------------|
| 10/750,618 | 12/31/2003 | Kenichi Kazama | KON-1712A (Div) | 8941 |
| 20311 7590 06/22/2007 LUCAS & MERCANTI, LLP 475 PARK AVENUE SOUTH 15TH FLOOR NEW YORK, NY 10016 | | | EXAMINER HUSON, MONICA ANNE | |
| | | | ART UNIT 1732 | PAPER NUMBER |
| | | | MAIL DATE 06/22/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/750,618

Applicant(s)

KAZAMA ET AL.

Examiner

Monica A. Huson

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10066493.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the paper filed 9 April 2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michihata et al. (EP 1 033 592). Regarding Claim 15, Michihata et al., hereafter "Michihata," show that it is known to carry out a method for making a cellulose ester film having a dry thickness of 20 to 60um (p0050), the process comprising providing a cellulose ester dope (p0010); casting the cellulose ester dope on a support to form a cellulose ester web (p0010); peeling the cellulose ester web at a peel position from the support (p0010); transporting the peeled web to a dryer (p0010); drying the peeled web therein to form a cellulose ester film (p0010); and winding the cellulose ester film around a spool, the residual solvent content at the winding step of the cellulose ester film being not more than 2wt% (p0010). Although Michihata does not specifically show a residual solvent content of less than 0.05wt%, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's residual solvent range during his molding method in order to fine-tune

Art Unit: 1732

his process or adjust final article variables which depend on the residual solvent content.

Regarding Claim 16, Michihata shows the process as claimed as discussed in the rejection of Claim 15 above, including showing a method wherein the difference between the maximum residual solvent content and the minimum residual solvent content in the transverse direction of the cellulose ester film is not more than 2wt% (p0010; it is being assumed that the residual solvent is the same amount in any measured direction). Although Michihata does not specifically show a residual solvent content of less than 0.02wt%, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's range during his molding method in order to fine-tune his process or adjust final article variables which depend on the residual solvent content.

Regarding Claim 17, Michihata shows that it is known to carry out a method for making a cellulose ester film having a dry thickness of 20 to 60um (p0050), the process comprising providing a cellulose ester dope (p0010); casting the cellulose ester dope on a support to form a cellulose ester web (p0010); peeling the cellulose ester web at a peel position from the support (p0010); transporting the peeled web to a dryer (p0010); drying the peeled web therein to form a cellulose ester film (p0010); and winding the cellulose ester film around a spool, wherein the peeled web is transported through a transport device from the peel position to a tension changing device nearest the peel position at a tension of less than 250 N/m, the tension changing device being located between the peel position and the spool (p0010). Although Michihata does not specifically show a tension of between 10 to 80 N/m, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie

Art Unit: 1732

inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's tension range during his molding method in order to fine-tune his process or adjust final article characteristics which change as a result of the tension during processing.

Regarding Claim 18, Michihata shows the process as claimed as discussed in the rejection of Claim 17 above, including showing a method using a tension of less than 250 N/m (p0010). Although Michihata does not specifically show a tension of between 10 to 50 N/m, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's tension range during his molding method in order to fine-tune his process or adjust final article characteristics which change as a result of the tension during processing.

Regarding Claim 19, Michihata shows the process as claimed as discussed in the rejection of Claim 17 above, including a peel position relative to a tension device (p0010). Although Michihata does not explicitly teach a distance of 2-90 m between a peel position and a tension device, it would have been obvious to one of ordinary skill, however, given the spatial distribution of rollers described in paragraph 0084, that a roller driven in a manner to tension the web could be positioned at any of the positions as drawn, and that such a positioning would implicitly fall within the broad range of 2-90m.

Regarding Claims 20 and 21, Michihata shows the process as claimed as discussed in the rejection of Claim 17 above, including a method wherein the transport device uses rollers (p0084; it is being

Art Unit: 1732

interpreted that a guide or tendency roller includes any roller used in plastics processing), meeting applicant's claim.

Regarding Claims 26, and 27, Michihata shows the process as claimed as discussed in the rejection of Claim 15 above, including a method wherein the residual solvent content at the winding step of the cellulose ester film being not more than 2wt% (p0010). Although Michihata does not specifically show a residual solvent content of less than 0.05wt%, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's residual solvent range during his molding method in order to fine-tune his process or adjust final article variables which depend on the residual solvent content.

Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michihata, in view of Knoop (U.S. Patent 4,664,859), and further in view of Roerty et al (U.S. Patent 5,862,946).

As required by claim 22, Michihata teaches providing a dope composition and casting it onto a belt casting apparatus to form a web (p0010). Michihata further teaches peeling the web from the belt and transporting it to a drying section to form a dry film before winding on a roll (p0010). Michihata still further teaches preparing the dope by mixing with an organic solvent (p0029). Michihata still further teaches heating the dissolution mixture under pressure (in a sealed vessel) to above the boiling (BP) of the solvent (p0072-0073).

Michihata does not teach unsealing the mixture for ≥ 6 minutes and resealing it thereafter, as required by claim 22.

Knoop teaches venting a polymer solution to degass it after heating while taking care to process the degassed solution within a closed system

Art Unit: 1732

closed to atmospheric exposure, effectively within a sealed environment. See lines 5-55 in column 7.

Michihata and Knoop are combinable because they are concerned with a similar technical field, namely, solvent casting. One of ordinary skill in the art at the time of the invention would have found it obvious to include the atmospheric restriction as taught by Knoop in the dissolution method of Michihata. The motivation to do so would have been to eliminate air bubbles. See lines 43-50 in column 7 of Knoop.

Michihata/Knoop do not teach reheating the mixture to above the solvent boiling point after venting, as required by claims 22 and 24, and retaining it thereafter at pressure, as required by claim 24.

Roerty et al, hereinafter "Roerty", teaches that a gas phase is more readily dissolved in a liquid phase when under pressure. See lines 55-60 in column 4. It would have been obvious to one of ordinary skill that a second heating to above the boiling point in a sealed environment would create the pressure necessary to dissolve any remaining entrained gas, thereby removing the potential for any residual bubble formation.

Because the solution is ultimately delivered to the die in a degassed state without further exposure to air, and under influence of pressure, there will be no bubbles in the casting, as required by claims 23 and 25.

Michihata/Knoop and Roerty are combinable because they are concerned with a similar technical field, namely, solvent casting. One of ordinary skill in the art at the time of the invention would have found it obvious to include the pressure dissolution teaching of Roerty in the casting method of Michihata/Knoop. The motivation to do so would have been to eliminate bubble formation in the film. See lines 43-50 in column 7 of Knoop.

Art Unit: 1732

Response to Arguments

Applicant's arguments, see the paper filed 9 April 2007, with respect to the rejection(s) of claim(s) 15-27 under Tachibana have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Michihata et al..

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monica A Huson

June 18, 2007